

Title (en)

Selective transfer of elements from one support to another support

Title (de)

Selektive Verlegung von Elementen von einem Träger zu einem anderen Träger

Title (fr)

Transfert sélectif d'éléments d'un support vers un autre support

Publication

EP 0977252 A1 20000202 (FR)

Application

EP 99401896 A 19990726

Priority

FR 9809783 A 19980730

Abstract (en)

Selective element transfer from a transfer support (10) to a reception support (18) comprises increasing the bonding energy of a selected element free face to the reception support. Selective element transfer from a transfer support (10) to a reception support (18) comprises: (a) treating the free face of a selected element to increase its adhesion to the reception support to above that of the other face to the transfer support; (b) retaining the other elements on the transfer support while contacting the treated face with the reception support; and (c) separating the transfer support from the reception support to achieve selected element transfer. Preferred Features: The initial process steps comprise forming the elements on an initial substrate, bonding the initial substrate to the transfer support (10) by molecular bonding and then eliminating the initial substrate. Molecular bonding is achieved by a hydrophilic, hydrophobic and/or micro-roughening operation. The elements (14) may be in the form of a continuous layer on the transfer support (10), in which case the or each selected element is individualized by chemical etching, blade cutting or laser etching. The free face of the or each selected element is bonded to the reception support by molecular bonding after heat treatment to increase its bonding energy. The non-selected elements are retained and/or reception support surface zones, which are to be kept free of elements, are treated by a hydrophilic, hydrophobic, roughening, heat treatment and/or surface recessing operation. The hydrophilic treatment comprises cleaning, roughening and/or deposition and the hydrophobic treatment comprises cleaning and/or contamination.

Abstract (fr)

L'invention concerne un procédé de transfert sélectif d'éléments (14) depuis un support de transfert (10) vers un support de réception (18), les éléments (14) adhérant par une première face au support de transfert (10) selon une énergie d'adhésion définie, les éléments (14) présentant chacun une seconde face susceptible d'être mise en contact avec le support de réception (18). Le transfert des éléments à transférer est obtenu en leur conférant une énergie d'adhésion avec le support de réception (18) supérieure à l'énergie d'adhésion de leur première face avec le support de transfert (10), des moyens de retenue étant prévus pour retenir les éléments à ne pas transférer sur le support de transfert. <IMAGE>

IPC 1-7

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IPC 8 full level

B23Q 3/08 (2006.01); **H01L 21/306** (2006.01); **H01L 21/58** (2006.01); **H01L 21/68** (2006.01)

CPC (source: EP US)

H01L 21/568 (2013.01 - EP US); **H01L 21/6835** (2013.01 - EP US); **H01L 24/29** (2013.01 - EP US); **H01L 24/83** (2013.01 - EP US); **H01L 24/97** (2013.01 - EP US); **H01L 2221/68354** (2013.01 - EP US); **H01L 2221/68368** (2013.01 - EP US); **H01L 2224/83191** (2013.01 - EP US); **H01L 2224/8385** (2013.01 - EP US); **H01L 2224/97** (2013.01 - EP US); **H01L 2924/01004** (2013.01 - EP US); **H01L 2924/01005** (2013.01 - EP US); **H01L 2924/01006** (2013.01 - EP US); **H01L 2924/01013** (2013.01 - EP US); **H01L 2924/01015** (2013.01 - EP US); **H01L 2924/01023** (2013.01 - EP US); **H01L 2924/01033** (2013.01 - EP US); **H01L 2924/01039** (2013.01 - EP US); **H01L 2924/01058** (2013.01 - EP US); **H01L 2924/01072** (2013.01 - EP US); **H01L 2924/01074** (2013.01 - EP US); **H01L 2924/01087** (2013.01 - EP US); **H01L 2924/07802** (2013.01 - EP US); **H01L 2924/12042** (2013.01 - EP US)

Citation (search report)

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